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2ND DRAFT

D/SSC/SM505/867/7/22

22 MARCH 1989

FEASIBILITY STUDY

UNDERWATER STORAGE OF DECOMMISSIONED NUCLEAR SUBMARINES

References:

- A. D/DMS(N)/1/1/5B dated 8.2.89
- B. DREADNOUGHT DARR dated 19.8.88

1. GENERAL

The de-fuelled and de-stored nuclear submarine will be towed from Rosyth to a selected site in the Hebrides area and lowered to the bottom. After a period that will be not less than 20 years and not more than 60 years, it will be raised to the surface and transported to a facility where the reactor plant will be cut up for disposal to the NIREX facility and the remainder of the vessel prepared for disposal as scrap. The storage depth will be nominally 200 metres. This could be reduced to, say 150 metres, if it results in an unacceptable limitation on site availability.

This study has been carried out with specific reference to DREADNOUGHT. While almost certainly applicable to any other SSN, its applicability to an SSBN would require additional work.

2. SITE SURVEY

A hydrographic survey would have to be carried out to select sites which have a minimal tidal stream at the sea bed, and a limited depth of soft silt. This would be restricted to a more detailed examination of the areas already selected (Reference 4) for geographical reasons.

3. PREPARATION OF REACTOR PLANT

A concrete fill of the RC is not practicable as there is, foreseeably, no viable method of breaking up such a monolith, other than manual methods which would be extremely expensive and a high dose burden. Most of the original reasons for a concrete fill (high hydrostatic pressure; bulkhead collapse; impact shock loads; presentation) are not relevant to this option. The one

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